

REMARKS

There remains pending in this application claims 1-15, of which claims 1 and 7-10 are independent. No claims have been added or cancelled.

In view of the above amendments and the following remarks, favorable reconsideration and allowance of the above application is respectfully sought.

Applicants have amended claims 7 and 11 to address the informalities cited in the outstanding Official Action. As the Examiner will appreciate, Applicants have also amended claims 8, 9, and 10 in the same manner as claim 7. Favorable consideration and withdrawal of the objections to the claims are respectfully sought.

Claim 1 is directed to a sheet stacking apparatus with a first tray movable between a stacking position at which the sheets discharged from an outlet are stacked at a first retracted position above the stacking position and a second tray disposed below the first tray and being movable independently of the first tray between the stacking position and a second retracted position below the stacking position. A controller causes the second tray to descend when the sheets are to be stacked on the first tray and causes the second tray to stop descending when the second tray reaches a standby position where a distance between the outlet and a top surface of the sheets stacked on the second tray is a predetermined distance.

Independent claim 1 was rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamada et al. (U.S. Patent No. 6,494,453). The rejection is respectfully traversed.

As seen in Figure 2, Yamada et al. discloses a finishing apparatus 200 that is provided with outlets E1 and E2 in combination with ejection trays 1 and 2, either of which is set

at a sheet receiving position for the outlet E2. Whenever tray 1 is located at the sheet receiving position for the outlet E2, a tray sensor SN6 detects the sheet receiving position. The tray sensor SN6 detects an upper surface of the tray 2 or an upper surface of a sheet on the tray 2. A tray sensor SN8 is mounted so as to detect a standby position of the tray 2 by detecting a position at a top surface of the sheets as stacked.

With the above described configuration, the ejection tray 2 is stopped when sensor SN6 detects an upper surface of the tray 2 or an upper surface of a sheet on the tray 2. In this case, if the end of a sheet leans on a stacking wall or a sheet is stuck on a sensor flag, the sheet will be incorrectly detected. As a result, the tray will be sent to lower than a correct position and it will take a longer time to execute the next retracting operation. In Applicant's invention as defined in claim 1, the second tray will stop descending when it reaches a standby position where a distance between an outlet and a top surface of the sheet stacked on the second tray has reached a predetermined amount. As a result, the tray stops at the correct position without regard to the state of the sheets stacked thereon. It is therefore respectfully submitted that the invention as defined in claim 1 is neither taught nor suggested by the applied reference.

The invention as featured in independent claims 7-10 incorporates, inter alia, retracted position detecting means which when another stack tray moves from above so that the top surface may be detected by the sheet surface detecting device, detects the stack tray or the sheet on the stack tray in a retracted position where movement of the stack tray to the stacking position is not interfered with, the retracted position being lower than the stacking position, and retraction controlling means that causes a stack tray to stop when the movement distance detecting means has detected that the stack tray has moved from the stacking position already

obtained to a position where either the stack tray or the sheets on the stack tray is detected by the retracted position detecting means.

In accordance with the invention as provided for in claims 7-10, Applicants achieve completion of a retracting operation of a lower tray within a predetermined time while ensuring that the upper surface of the lower tray is at a position necessary for the retraction of a lower tray. With this arrangement, the invention as provided for in each of claims 7-10 eliminates the drawback of the prior art wherein if an end of a sheet leans on a stacking wall or a sheet is stuck on a sensor flag, the sheet is incorrectly detected so that the tray descends lower than a correct position, whereby it takes a longer time to execute a retracting operation.

Claims 7-10 also stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Yamada et al. Those rejections are likewise traversed.

More specifically, Applicants have carefully reviewed Yamada et al. and respectfully submit that Yamada et al. does not teach or suggest the movement distance detecting means that detects a movement distance of the stack tray driven by the drive device to the retracted position in combination with retraction controlling means that causes a stack tray to stop when the movement distance detecting means has detected that the stack tray has moved from the stacking position already obtained to a position where either the stack tray or the sheets on the stack tray are detected by the retracted position detecting means. Such combination of features are contained at least in claims 7 and 9.

Yamada et al. is also believed to fail to teach or suggest time measuring means that measures time in combination with retraction controlling means that causes a stack tray to stop when the time measuring means has detected that the stack tray has moved for a time period

calculated based on a distance from the stacking position already obtained to a position where the retracted position detecting means detects the stack tray or sheets on the stack tray, and a speed of the stack tray moving to the retracted position. Such combination of features is respectfully submitted to be lacking in both independent claims 8 and 10.

For the foregoing reasons, Applicants respectfully submit that independent claims 7-10 are distinguishable from the applied reference. The remaining claims in the above application are dependent claims which depend either directly or indirectly from one of the above-discussed independent claims and are therefore patentable over the art of record for reasons noted above with respect to the independent claims. In addition, each recite features of the invention still further distinguishing it from the applied art. Favorable and independent consideration thereof is respectfully sought.

Applicants respectfully submit that all outstanding matters in the above application have been addressed and that this application is in condition for allowance. Favorable reconsideration and an early passage to issue of the above application are respectfully sought.

Applicants' undersigned attorney may be reached in our Washington, D.C. office by telephone at (202) 530-1010. All correspondence should continue to be directed to our below listed address.

Respectfully submitted,



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